

**WHAT IS CLAIMED IS:**

1           1.       A method of developing user context from user Web session data that  
2 includes nonlinear site flow events, the method comprising:  
3           (a) detecting a nonlinear site flow event in the user session data;  
4           (b) determining which, if any, information associated with the nonlinear site  
5                 flow event should be included in the user context;  
6           (c) developing the user context in accordance with the determination in (b).

1           2.       The method of claim 1 wherein determining which, if any, information  
2 associated with the nonlinear site flow event should be included in the user context  
3 comprises:  
4           determining whether the nonlinear site flow event represents a new user  
5                 request or a past user request.

1           3.       The method of claim 1 wherein detecting a nonlinear site flow event  
2 comprises:  
3           receiving a request identifier from a client-side system that provides an  
4                 identifier for a next expected Web page to be provided by a Web  
5                 server application;  
6           determining whether the request identifier received from the client-side system  
7                 is the request identifier expected by a server-side system that includes  
8                 the Web server application.

1           4.       The method of claim 3 further comprising:  
2           including a next page request identifier in a query string from a client-side  
3                 system; and  
4           tracking expected next page request identifiers in a server-side system.

1           5.       The method of claim 1 wherein determining which, if any, information  
2 associated with the nonlinear site flow event should be included in the user context  
3 comprises:  
4           storing state data for each batch of user session events;

5 after detecting a nonlinear site flow event, comparing first state data associated  
 6 with an immediately preceding batch of events with second state data  
 7 associated with a batch events associated with a page request identifier  
 8 received from a client-side system;  
 9 if the first state data matches the second state data, excluding the information  
 10 associated with the nonlinear site flow event in the user context; and  
 11 if the first state data does not match the second state data, including the  
 12 information associated with the nonlinear site flow event in the user  
 13 context.

1 6. The method of claim 1 wherein each nonlinear site flow event is  
 2 associated with a batch of events corresponding to a single user Web session request,  
 3 the method further comprising:  
 4 including a nonlinear site flow identifier as a first event in each batch of events  
 5 associated with a nonlinear site flow event.

1 7. The method of claim 1 further comprising:  
 2 repeating (a), (b), and (c) for a plurality of user sessions; and  
 3 developing a product demand signal from user contexts developed in (c).

1 8. A computer program product having instructions encoded therein to  
 2 direct a processor to perform the method of claim 1.

9. The computer program product of claim 8 wherein the computer  
 program product is selected from a the set of a disk, tape or other magnetic, optical, or  
 5 electronic storage medium and a network, wireline, wireless or other communications  
 medium.

1 10. A method for detecting nonlinear site flow and developing an accurate  
 2 user session context, the method comprising:  
 3 (a) receiving Web page requests initiated by a user, wherein the requests each  
 4 include a respective request identifier that identifies a next page  
 5 expected to be provided to the user by a Web server application;

- 6 (b) recording each batch of events associated with each Web page request;
- 7 (c) tracking a server-side identifier for each batch of events associated with
- 8 each Web page request;
- 9 (d) recording a nonlinear site flow event for a batch of events when the request
- 10 identifier in the Web page request does not correspond to the server-
- 11 side identifier;
- 12 (d) determining which, if any, information associated with the nonlinear site
- 13 flow event should be included in the user context; and
- 14 (f) developing the user context in accordance with the determination of which,
- 15 if any, information associated with the nonlinear site flow event should
- 16 be included in the user context.

1 11. The method of claim 10 further comprising:

2 determining whether the nonlinear site flow event represents a new user

3 request or a past user request.

1 12. The method of claim 10 wherein the Web page request comprises a

2 query string and the request identifier is embedded in the query string.

1 13. The method of claim 10 wherein determining which, if any,

2 information associated with the nonlinear site flow event should be included in the

3 user context comprises:

4 storing state data for each batch of user session events;

5 after detecting a nonlinear site flow event, comparing first state data associated

6 with an immediately preceding batch of events with second state data

7 associated with a batch events associated with a page request identifier

8 received from a client-side system;

9 if the first state data matches the second state data, excluding the information

10 associated with the nonlinear site flow event in the user context; and

11 if the first state data does not match the second state data, including the

12 information associated with the nonlinear site flow event in the user

13 context.

1        14.    The method of claim 10 further comprising:  
2        repeating (a) through (f) to develop a set of user session contexts.  
3        developing a product demand signal from the set of user contexts.

1        15.    A system for developing user session context from user session records  
2        that include nonlinear site flow events, the system comprising:  
3        a processor; and  
4        a memory coupled to the processor and having instructions stored therein and  
5        executable by the processor to:  
6        (a) detect a nonlinear site flow event in the user session data;  
7        (b) determine which, if any, information associated with the nonlinear  
8        site flow event should be included in the user context;  
9        (c) develop the user context in accordance with the determination in  
10       (b).

1        16.    The system of claim 15 further comprising:  
2        one or more server applications to receive user session requests and record a  
3        batch of events corresponding to each user session request.

1        17.    The system of claim 15 wherein determining which, if any,  
2        information associated with the nonlinear site flow event should be included in the  
3        user context comprises:  
4        determining whether the nonlinear site flow event represents a new user  
5        request or a past user request.

1        18.    The system of claim 15 instructions to detect a nonlinear site flow  
2        event comprise:  
3        determining whether a request identifier received from a client-side system is  
4        the request identifier expected by a server-side system.

1           19.    The system of claim 18 wherein the memory further includes  
2 instructions to:  
3           include a next page request identifier in a query string from a client-side  
4           system; and  
5           track expected next page request identifiers in a server-side system.

1           20.    The system of claim 15 wherein instructions to determine which, if  
2 any, information associated with the nonlinear site flow event should be included in  
3 the user context comprise:  
4           storing state data for each batch of user session events;  
5           after detecting a nonlinear site flow event, comparing first state data associated  
6           with an immediately preceding batch of events with second state data  
7           associated with a batch events associated with a page request identifier  
8           received from a client-side system;  
9           if the first state data matches the second state data, excluding the information  
10          associated with the nonlinear site flow event in the user context; and  
11          if the first state data does not match the second state data, including the  
12          information associated with the nonlinear site flow event in the user  
13          context.

1           21.    The system of claim 15 wherein each nonlinear site flow event is  
2 associated with a batch of events corresponding to a single user Web session request,  
3 and the memory further includes instructions to:  
4           include a nonlinear site flow identifier as a first event in each batch of events  
5           associated with a nonlinear site flow event.

1           22.    The system of claim 15 wherein the memory further includes  
2 instructions to:  
3           perform (a), (b), and (c) for a plurality of user sessions; and  
4           develop a product demand signal from user contexts developed in (c).

- 1           23.    A system for developing user context from user Web session data that
- 2 includes nonlinear site flow events, the system comprising:
- 3           means for detecting a nonlinear site flow event in the user session data;
- 4           means for determining which, if any, information associated with the
- 5           nonlinear site flow event should be included in the user context;
- 6           means for developing the user context in accordance with the determination of
- 7           which, if any, information associated with the nonlinear site flow event
- 8           should be included in the user context.